

Remarks

The various parts of the Office Action (and other matters, if any) are discussed below under appropriate headings.

Allowable Subject Matter

The indicated allowability of claims 3-5, 22, 24-30, and 32-36 is noted with appreciation. Claim 30 has been rewritten as an independent claim including all of the limitations of the claim from which it originally depended. Accordingly, claims 3-5, 22, 24-30, and 32-36 are now allowable.

Claim Rejections - 35 USC § 102 and § 103

Claims 1, 2, 6, 9-15, 21 and 31 have been rejected under 35 U.S.C. § 103(a) as being unpatentable over U.S. Patent No. 4,238,198 to Swaim et al. ("Swaim") in view of either U.S. Patent No. 5,080,867 to Cooke ("Cooke") or U.S. Patent No. 4,141,800 to Breuer et al. ("Breuer"). Claims 1, 2, 6, 9-15, 21 and 31 have been canceled and replaced by new claims 37-54.

The new claims include independent claims 37 and 45. New claim 37 sets forth a portable apparatus for in-field and laboratory measurement of reduced inorganic sulfur content of a sample. The portable apparatus includes, *inter alia*, a measuring means for measuring the amount of hydrogen sulphide, the measuring means being selected from the group consisting of a colourimetric detector, a turbidimetric detector, a gravimetric detector, an electrochemical gas analyzer, a UV spectrometer and an IR spectrometer.

New claim 45 sets forth a portable apparatus for in-field and laboratory measurement of reduced inorganic sulfur content of a sample. The portable apparatus includes, *inter alia*, at least one reservoir for storing at least one reactant that reacts with the precursor to form the selective reducing agent, the at least one reservoir being connected to the reaction chamber by at least one transfer means for transferring the at least one reactant from the at least one reservoir to the reaction chamber, and a measuring means for measuring the amount of hydrogen sulphide, the measuring means being selected from the group consisting of a colourimetric detector, a turbidimetric detector, a gravimetric detector, an electrochemical gas analyzer, a UV spectrometer and an IR spectrometer.

Swaim describes an apparatus that is not portable. The apparatus shown in FIG. 5 of Swaim comprises laboratory glassware. Further, the gas stream exiting conduit 146 shown in FIG. 5 of Swaim is connected to the nebuliser shown in FIG. 1 of Swaim. FIG. 1 of Swaim describes an arrangement of a nebuliser, a plasma chamber and a photomultiplier, which forms the measuring means of Swaim. The apparatus of Swaim must be operated in a fume hood because sample aerosol (containing hydrogen sulphide, a toxic gas) is vented through vent 38 (column 5, lines 48-60 of Swaim). It is respectfully submitted that the measuring means shown in FIG. 1 of Swaim is not suitable for use in the portable apparatus as set forth in new claims 37 and 45.

As the Examiner has indicated, Swaim does not disclose use of the particular measuring means set forth in new claims 37 and 45. To overcome this deficiency, the Examiner attempts to combine the disclosure of Swaim with Breuer or Cooke. It is respectfully submitted that no motivation exists to combine the teachings of Swaim with Breuer or Cooke. In fact, Swaim actively teaches away from using any measuring means except for a measuring means including a plasma. For example, at column 1, lines 27-37, Swaim states:

"Existing titrimetric or colourimetric methods are found to be either insufficiently sensitive for this determination or excessively time consuming. Known turbidimetric and polarographic methods are also found disadvantageous due to lack of specificity and/or reproducibility. Known instrumental techniques which have been before used to determine sulphur include x-ray fluorescence, neutron activation and charged particle activation analysis, but these at times are either not adequately sensitive or, in cases, would be impractical."

Therefore, Swaim teaches that other measuring methods or detectors, except for the particular detector described thereafter in Swaim, are either insufficiently sensitive or excessively time consuming. Thus, Swaim actively teaches away from using the measuring methods or detectors of Breuer or Cooke. Therefore, independent claims 37 and 45, and dependent claims 38-44 and 46-54 are patentable for at least these reasons.

Regarding new claim 45, none of the references have been found to disclose at least one reservoir being connected to the reaction chamber by at least one transfer means for transferring the at least one reactant from the at least one reservoir to the

reaction chamber. Thus, independent claim 45 and dependent claims 46-54 are patentable for this additional reason.

It is further submitted that Swaim, either alone or in combination with Breuer or Cooke, also fails to disclose the following features set forth in the new claims:

- A reservoir for holding a pre-cursor connected to the reaction chamber by a transfer means and at least one further reservoir for holding at least one reactant with the at least one further reservoir being connected to the reaction chamber by at least one further transfer means (claim 45).
- A further reservoir for storing ethanol (claim 47).
- The specific reducing agents or precursors thereof (claims 38, 39 and 46).

Conclusion

In view of the foregoing, request is made for timely issuance of a notice of allowance.

Respectfully submitted,

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